

TECHNICAL NOTES

U.S. DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

STATE OFFICE

STILLWATER. OKLAHOMA 74074

PLANT SCIENCE TECHNICAL REFERENCES - FOR IN SERVICE USE ONLY

BIOLOGY OK-23

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RE: Attracting Songbirds Through Home Feeding

The songs of birds and their colorful, sprightly activities add much to the joys of country and urban living. As with all wildlife, birds require food, cover, and water as part of their environment. Attracting birds to the home is generally done by providing one or more of these essential habitat elements so the home dweller can more closely observe birds and their beauty.

Food is probably the most significant item in attracting wintering birds-- food to regain energy from their flight south, food to combat cold weather, and food to return north in good condition for breeding. Different birds have different food requirements. To attract a variety of birds, a variety of foods should be provided.

The most popular type of bird feeding is providing seed for various seed eating birds in home feeders. It is estimated that one-fifth of all U.S. households purchase wild bird seed, spending about \$170 million annually. A number of different seeds and seed-mixes are sold commercially at variety stores, grain elevators, through local bird clubs, and other sources. The palatability and preference of these commonly available seeds however are not the same. Certain seeds commonly sold in commercial bird mixes are relatively unattractive. The type of seed used by the home dweller is an important consideration and one that should be made prior to purchasing seed and building up unwanted starling, house sparrow, or combined populations.

The following is an analysis of the use of commonly available commercial bird seeds based on Geis' research where over 179,000 observations were made on the preference of these seeds over a two-year period in Maryland.

Buckwheat (Fagopyrum esculentum)

Brown-headed cowbirds and mourning doves showed some interest in buckwheat during the summer and fall but other food materials were far more attractive to all bird species.

Canary Seed (Phalaris canariensis)

Canary seed was most heavily used by the same species (various sparrows and doves) that used white proso millet, and, to a limited extent, by finches, but no species found it nearly as attractive as white proso millet. Canary seed is used in small quantities in mixes. Since it costs about 70% more than white proso millet, little advantage accrues from adding this seed to mixes and certainly none in presenting it alone.

Cracked Corn (*Zea mays*)

Although the reputation of cracked corn is good and it was used to a significant extent by such species as white-throated sparrows, dark-eyed juncos, cardinals, mourning doves, and tree sparrows, it was eaten only about one-third as often as white proso millet. The fine cracked corn (sometimes called chick corn) was eaten more by all species than the coarse cracked corn. When corn is offered, the fine cracked corn should be the type used.

Flax (*Linum berlandieri*)

Flax was almost completely ignored by all species. Although mourning doves fed on it sparingly, they ate much less flax than white proso millet, or even black striped sunflower.

German Millet (*Setaria italica* var. *stramineofracta*)

Often called golden millet, German millet was tested only in summer and appealed to some extent to brown-headed cowbirds, mourning doves, house sparrows, and cardinals. In no instance was it as attractive as white proso millet, but it was superior to black striped sunflower in attracting brown-headed cowbirds and house sparrows.

White Proso Millet (*Panicum miliaceum*)

Like black striped sunflower, white proso millet can be judged only by comparison with a variety of other foods. Among the bird species preferring small seeds to sunflower products, white proso millet was clearly the preferred food; no other small seed had its general attractiveness. It certainly should be the food of choice in any feeding program to attract dark-eyed juncos, mourning doves, and all species of sparrows. In a comparison of the performance of white proso millet with black striped sunflower, the species that preferred the small seeds to sunflower products were, in descending order of preference, tree sparrow, song sparrow, brown-headed cowbird, dark-eyed junco, house sparrow, mourning dove, and white-throated sparrow. The general availability of white proso millet, its relatively low cost, and high attractiveness make it an excellent food for use in bird feeders.

Red Proso Millet (*Panicum miliaceum*)

Red proso millet has about the same characteristics as white proso millet. American goldfinches and common grackles visited red proso more often than white proso millet but both species greatly preferred other foods to the millets. The large ratios of visits to red proso vs. black striped sunflower by some species were due more to a lack of attraction to sunflower than a strong preference for red proso. American goldfinches and grackles found white proso millet even more appealing than the red proso. Red proso millet can be used as a substitute for white proso millet although it is apparently somewhat less attractive.

Japanese Millet (*Echinochloa crus-galli* var. *frumentacea*)

Although Japanese millet has frequently been planted in Maryland food plots to attract birds, it was much less attractive on the feeding tables than white proso millet or black striped sunflower. Dark-eyed juncos demonstrated more interest in Japanese millet than did other bird species.

Milo (Sorghum vulgare)

Milo was more attractive to starlings, mourning doves, and brown-headed cowbirds than black striped sunflower. No species found milo as attractive as white proso millet, however, cardinals were attracted equally to both foods. Although milo is a common ingredient in wild bird food mixes, in view of its general unattractiveness, it probably should not be used. The milo available for the tests reported here was the dark, brownish-red 'combine' variety. Possibly the white-seeded varieties may be more attractive, judging from food plot observations where the 'hegari' variety with white seeds was consumed before the dark-seed varieties.

Oats (Avena sativa)

Hulled oats--Hulled oats, sometimes called oat groats, appear occasionally in bird food mixes. The present experiment indicates that the inclusion of hulled oats is ill-advised because the only species finding them strongly attractive was starlings.

Whole oats--Limited tests indicated that whole oats were attractive only to starlings.

Peanuts (Arachis hypogaea)

Peanut hearts--Peanut hearts were extremely attractive to starlings and somewhat attractive to a number of small birds that typically feed on white proso millet. A comparison of peanut hearts and white proso millet, however, clearly indicates that small birds can effectively be attracted to white proso millet without the negative effect of attracting starlings.

Peanut kernels--In view of their large size, whole peanut kernels were remarkably attractive. Tufted titmice, blue jays, Carolina chickadees, and white-throated sparrows readily took this food. The peanuts used in these tests were the large 'Virginia' type. The attractiveness of small, round Spanish peanuts may be different.

Rape Seed (Brassica napus)

Rape seed was unusual in that it received no visits by any bird species in two winter tests. This food material occasionally appears in mixes and is a major ingredient in domestic canary feed. However, as far as wild birds are concerned, it was the least attractive food in this study.

Rice (Oryza sativa)

Rice was not nearly as attractive to any bird species as black striped sunflower or white proso millet.

Sunflower Products (Helianthus annuus)

Black striped sunflower seeds--Carolina chickadees, evening grosbeaks, tufted titmice, blue jays, American goldfinches, house finches, purple finches, and cardinals much preferred black striped sunflower to white proso millet. In contrast, the sparrows and mourning doves found black striped sunflower unattractive. Among the usual sunflower eaters, only tufted titmice and blue jays preferred black striped sunflower to other sunflower products.

Gray striped sunflower seeds--Although this large sunflower seed imported from South Africa is visually appealing to those who stock bird feeders, very few species of birds preferred gray striped sunflower seeds. Only evening grosbeaks found gray striped sunflower seeds as attractive as black striped sunflower. In winter tests, the gray striped variety was as attractive as black striped sunflower to blue jays and tufted titmice. All species that liked sunflower seeds ate the gray striped seed but they usually consumed much less of the gray striped than the oil-type sunflower or black striped sunflower seeds.

Hulled sunflower pieces and sunflower kernels--Whole or broken kernels of hulled sunflowers were very attractive to a number of species, especially American goldfinches, house sparrows, and white-throated sparrows. These foods are discussed collectively because the hulled sunflower used in our tests were variable, ranging from whole kernels to kernel pieces of different sizes. They are desirable food materials, especially if one wishes to attract finches and eliminate the accumulation of husks that results when whole sunflower seeds are fed.

Oil-type sunflower seeds--Oil-type sunflower seed was superior to other foods, including black striped sunflower for most bird species. Among the common visitors to feeding tables, only the tufted titmouse and blue jay did not demonstrate a strong preference for the oil-type sunflower seed. Some of the birds ordinarily regarded as small seed eaters found oil-type sunflower attractive; for example, white-throated sparrows, song sparrows, house sparrows, and dark-eyed juncos all made significant use of oil-type sunflower seeds, even when white proso millet was available. Apparently the smaller size of the oil-type sunflower seed not only makes it attractive to more species but also causes it to last longer in the feed than other sunflower seeds because it has 3 to 4 times the number of seeds per unit weight.

Wheat (*Triticum aestivum*)

Data were segregated into new and old wheat to determine whether freshly harvested wheat was more attractive than wheat that had been in storage and had a drier, more broken appearance. The tests indicated that the two types of wheat were about equally attractive except possibly for brown-headed cowbirds and mourning doves, which showed some preference for the new wheat. Of the species that used wheat, all used either black striped sunflower or white proso millet to a much greater extent.

Thistle (*Guizotia abyssinica*)

Thistle (niger), a small black seed imported from Africa and Asia, demonstrated excellence as a goldfinch food. It also was eaten to a significant extent by house finches, purple finches, mourning doves, song sparrows, white-throated sparrows, and dark-eyed juncos.

Foods other than seeds are necessary to attract certain birds:

Suet is favored by woodpeckers, wrens, and nuthatches.

Raisins by robins, thrushes, bluebirds, mockingbirds, and thrashers.

Peanut butter by woodpeckers, titmice, chickadees, and jays.

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Suet cakes made from melted suet mixed with seeds, peanut butter, and corn meal make an attractive combination of foods for many birds. Seeds may be placed on sticky substances such as peanut butter or shortening, which not only provides an attractive food combination but also prevents strong winds from blowing the seeds away. Commercial feeders are also available to provide food (2 cups water, 1 part sugar) for hummingbirds.

/s/Jimmy Hill acting for
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